

**Notice of Allowability**

Application No.

09/828,160

Examiner

Kwang B. Yao

Applicant(s)

MURASE, TUTOMU

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 2/22/05.
2. ☒ The allowed claim(s) is/are 1,2,4-9, renumbered 1-3,4-7,5,8, respectively.
3. ☒ The drawings filed on 09 April 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 4, line 1, after "according to claim", delete "3", insert --1--.

Claim 5, line 1, after "according to claim", delete "3", insert --1--.

Claim 6, line 1, after "according to claim", delete "3", insert --1--.

Claim 7, line 1, after "according to claim", delete "3", insert --1--.

## **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance:

The present invention is directed to a cache table management device used in a router. Each independent claim identifies the uniquely distinct features: regarding claim 1, wherein the router entry selection device comprising: an entry group typical value circuit to receive entry group information from the hit database, and determining from the entry group information a typical value for evaluating entry usage status, and a typical zone value and/or typical threshold value in the entry priority level; a comparator circuit, having a table linking the entry groups already present in the cache table 102 and the typical values for those entry groups, for comparing the typical values of the entry group and the typical values sent from the entry group typical value circuit, and for sending the priority rankings of the entry groups present in the cache table; an arbitrator circuit to determine the final interchanging ranking of the entry group based on the priority rankings sent from the comparator circuit; and an entry determiner circuit to monitor available space in the cache table and to delete cache table entries from low ranking entries determined by the arbitrator circuit and to send information to the comparator circuit on the deleted entry groups for deletion from the cache table when no empty space is available after checking for available space to add an entry group; regarding claim 8 (originally filed claim 9), wherein the entry selection circuit is implemented on the router in an operation comprising the steps of: (a) implementing a function of an entry group typical value circuit which receives entry group information from the hit record database, and determines typical values of entry usage ratings, and typical and/or threshold values for zones constituting entry priority levels; (b) implementing a function of a comparator circuit having a table which has entry groups linked

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with entry group typical values for entry groups present in the cache table, comparing the typical values of each entry group on the table with typical values sent from the entry group typical value circuit, and sending the priority rankings of the entry groups present in the cache table; (c) implementing a function of an arbitration circuit to determine the final interchange ranking of the entry groups based on the priority rankings sent from the comparator circuits; and (d) implementing a function of an entry determiner circuit for monitoring the available space in the cache table and for deleting, in case of no available space, the cache table entries of low ranking entry groups determined by the arbitrator circuit and sending information to the comparator circuit on the deleted entry groups for deletion from the cache table. The closest prior art, Ahuja et al. (US 5,946,679), Hariguchi et al. (US 6,665,297) disclose conventional communication systems, either singularly or in combination, fail to anticipate or render the above features obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

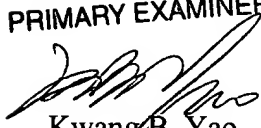
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang B. Yao whose telephone number is 571-272-3182. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KWANG BIN YAO  
PRIMARY EXAMINER



Kwang B. Yao  
April 13, 2005